

## Specifications

### Video Performance\*

|                                     |                       |
|-------------------------------------|-----------------------|
| Video Input Impedance               | 75 ohm (balanced)     |
| Video Input Voltage                 | 1 V p                 |
| Video Connector                     | BNC                   |
| Frequency Response                  | 10 Hz to 7 MHz (3 dB) |
| Signal to Noise Ratio               | 62 dB as per RS250C   |
| Differential Gain (-20°C to +70°C)  | <4%                   |
| Differential Gain (-30°C to +85°C)  | <7%                   |
| Differential Phase (-20°C to +70°C) | <4°                   |
| Differential Phase (-30°C to +85°C) | <7°                   |
| Field Tilt                          | <2%                   |
| Luminance                           |                       |
| Non-Linearity (-20°C to +70°C)      | <4%                   |
| Luminance                           |                       |
| Non-Linearity (-30°C to +85°C)      | <7%                   |

### Optical Performance

|                             |                                       |
|-----------------------------|---------------------------------------|
| Single mode - Core Diameter | 8 - 10u                               |
| Optical Connector           | ST                                    |
| Transmitting Light Source   | Laser 1310 nm                         |
| Optical Power Output        | -8 dBm (+/- 2 dBm @ -30 °C to +85 °C) |
| Receiving Wavelength        | 1550 nm                               |
| Data Receiver Sensitivity*  | - 35 dBm                              |

### Data Interface

|                |                                |
|----------------|--------------------------------|
| Data Interface | RS-422 Bi-directional – 4 wire |
| Data Rate*     | Up to 200Kb/s                  |

\* measured with 144S or 244S video receiver unit as per RS-250C @ 1km fiber cable

|                       |  |
|-----------------------|--|
| Operating Temperature | -30°C to +85°C                           |
| Dimensions            | 6.75”(172mm) x 4.95”(126mm) x 1.4”(36mm) |
| Power Requirements    | 12V AC or DC @ 300mA; 24VAC @ 200mA      |

# **144S-VT/DX-M1ST**

## **Fiber Optic Video Transmitter & 2Ch. RS-422 Data Transceiver**

**Singlemode**

**Single Fiber Operation**

Elcommtech Corp.  
2620 Ocean Parkway, Suite 4H  
Brooklyn NY 11235  
(718)743-2869 Fax: (718)648-3642  
E-Mail: [sales@elcommtech.com](mailto:sales@elcommtech.com)  
Internet: <http://www.elcommtech.com>

## Introduction :

The Elcommtech 144S-VT/DX-M1 forms part of a singlemode, single fiber video and data fiber optic transmission system. Using frequency modulation and operating as a dual window 1310/1550nm single fiber unit, the 144S-VT/DX-M1 provides the following facilities in a 170mm x 126mm x 34mm free standing module.

Optical Transmitter for : Composite Video signal &  
2x RS-422 Data Channels

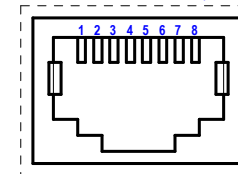
Optical Receiver for : 2x RS-422 Data Channels

**Indicators :-** All indicators are located on the top of the module.

| Indicator   |       |  |
|-------------|-------|--|
| Power       | off   | The unit is not powered                                      |
|             | green | Power connected  |
| Video Input | off   | No video input or insufficient video signal present          |
|             | green | Composite Video signal present                               |
| Data Link   | off   | No received optical signal present                           |
|             | green | Optical signal received                                      |
| Data Tx1    | off   | No data signal present at the optical transmitter Ch.1 input |
|             | red   | Data signal is present at the optical transmitter Ch.1 input |
| Data Rx1    | off   | No data signal present at the optical receiver Ch.1 output   |
|             | green | Data signal is present at the optical receiver Ch.1 output   |
| Data Tx2    | off   | No data signal present at the optical transmitter Ch.2 input |
|             | red   | Data signal is present to the optical transmitter Ch.2 input |
| Data Rx2    | off   | No data signal present at the optical receiver Ch.2 output   |
|             | green | Data signal is available at the optical receiver Ch.2 output |

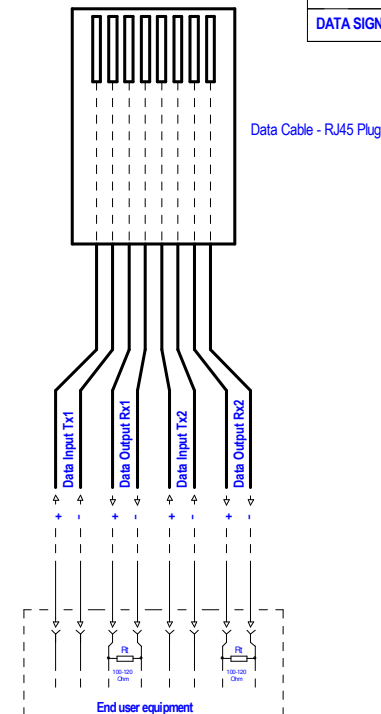
## Data Connector Pinouts

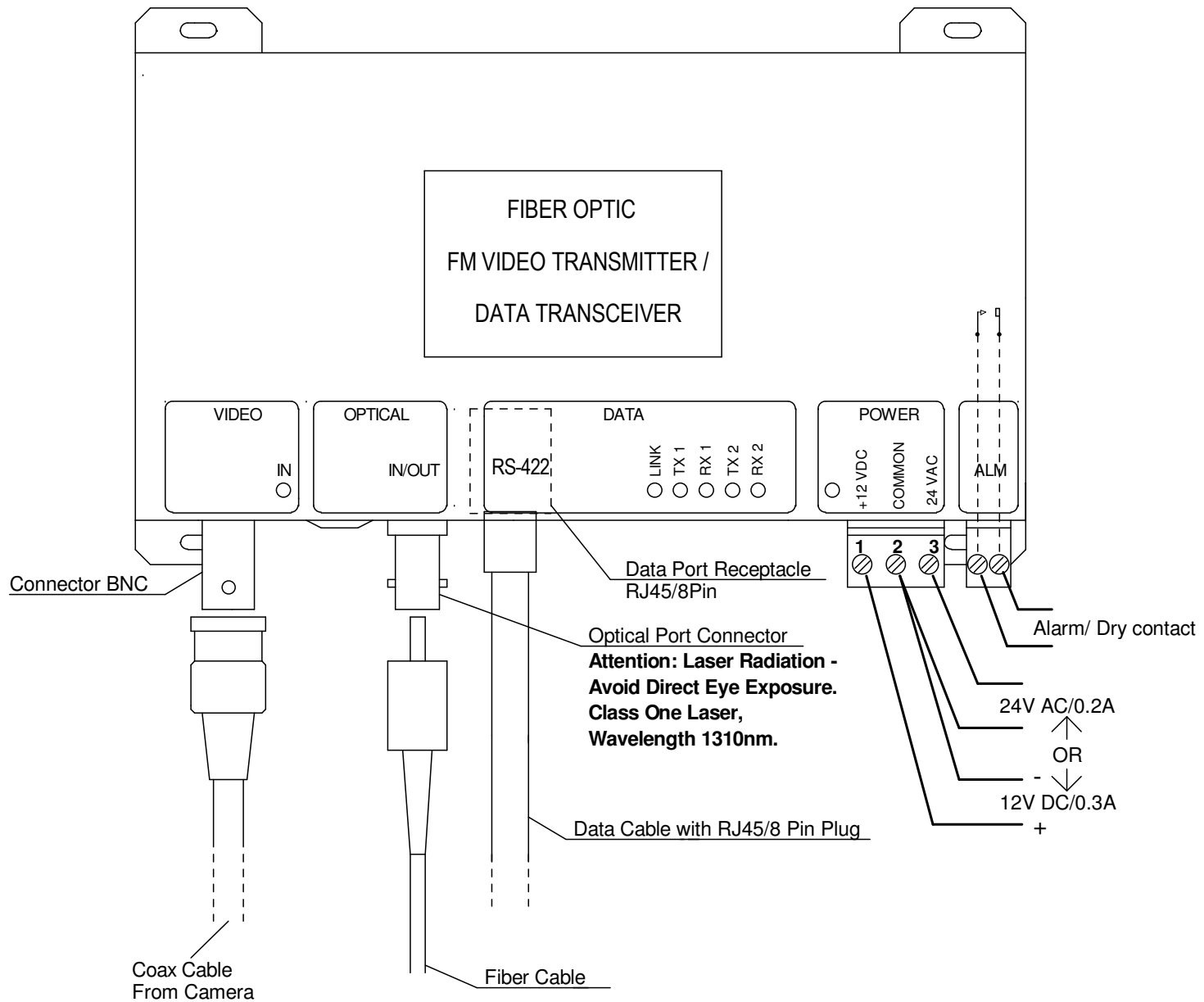
Data Port - RJ45 Modular Receptacle



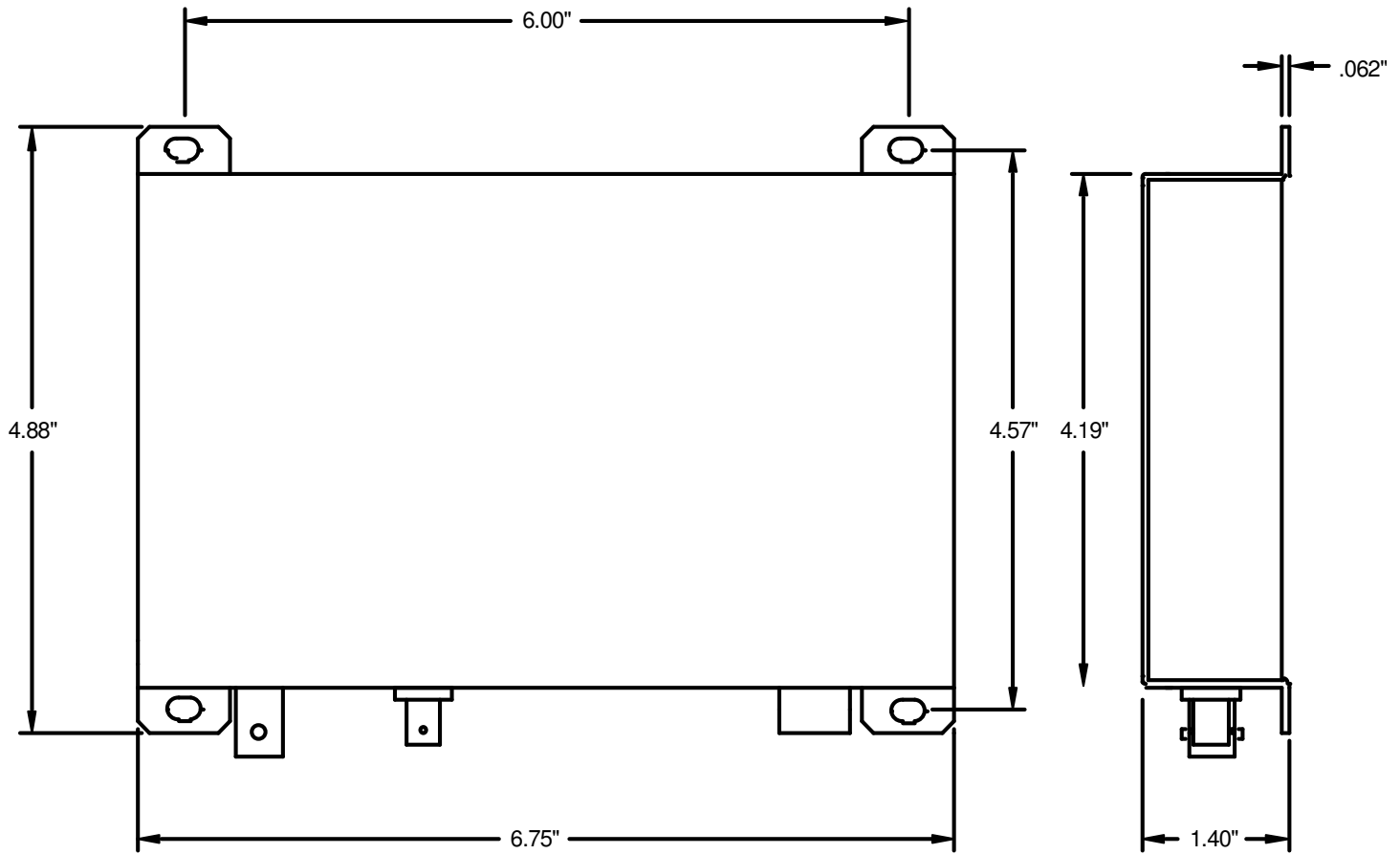
RS-422 Data Port Connector

| RS-422        | Tx1 (IN1) | Rx1 (OUT1) | Tx2 (IN2) | Rx2 (OUT2) |
|---------------|-----------|------------|-----------|------------|
| DATA SIGNAL + | 1         | 3          | 5         | 7          |
| DATA SIGNAL - | 2         | 4          | 6         | 8          |

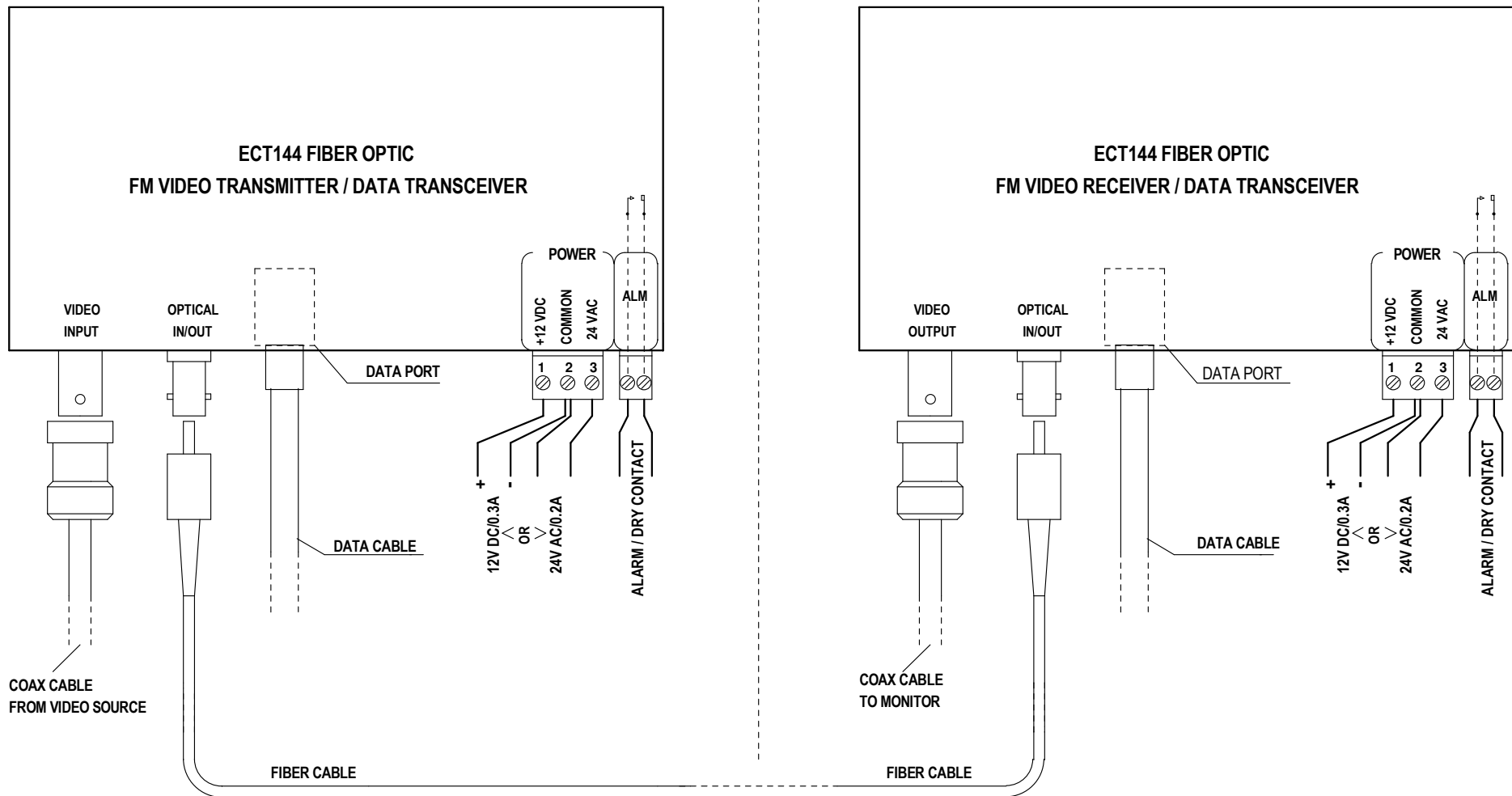




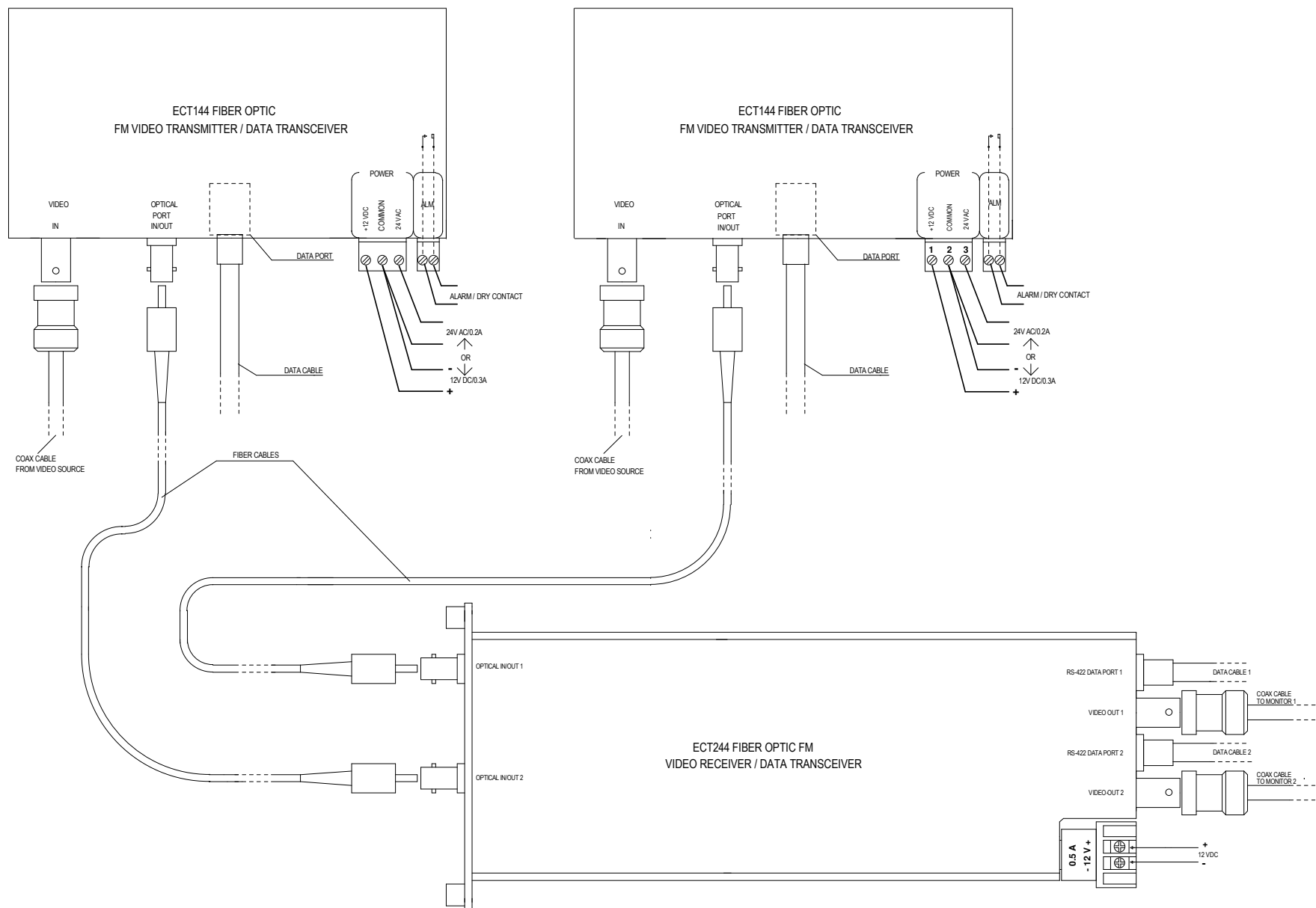
**144S-VT/DX-M1 Video Transmitter / Data Transceiver Connections**



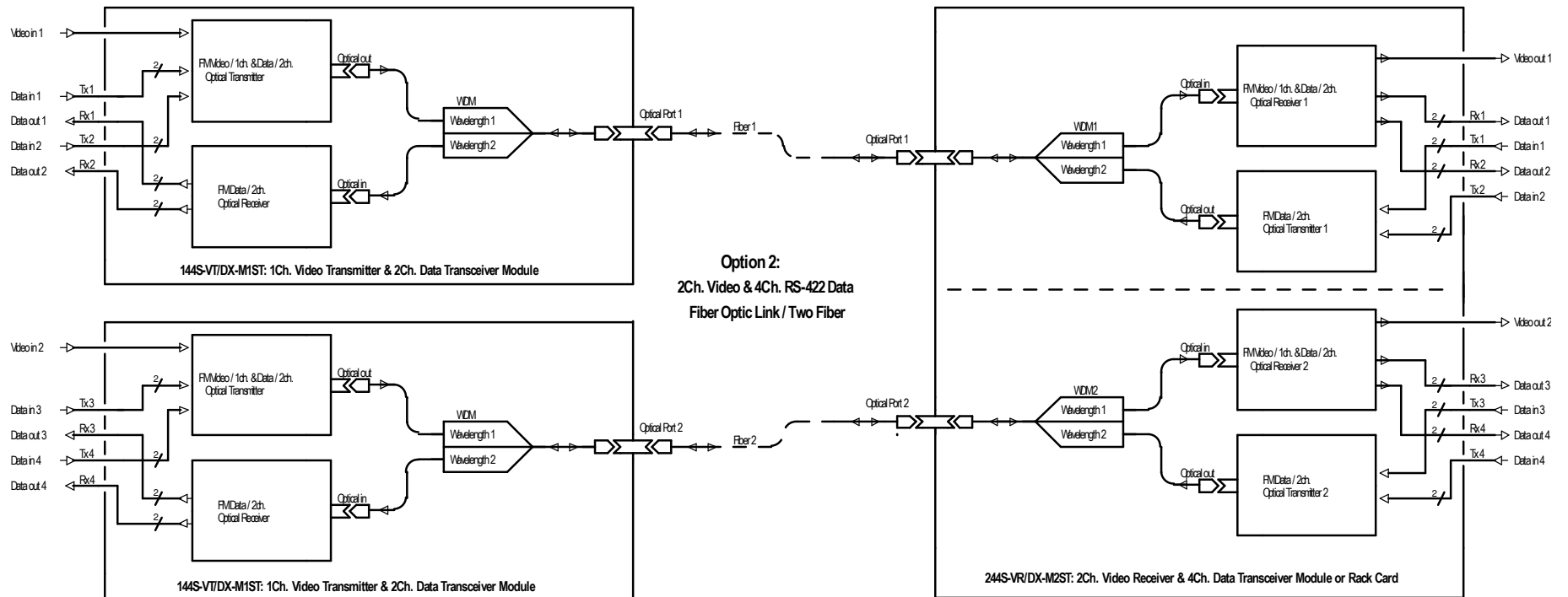
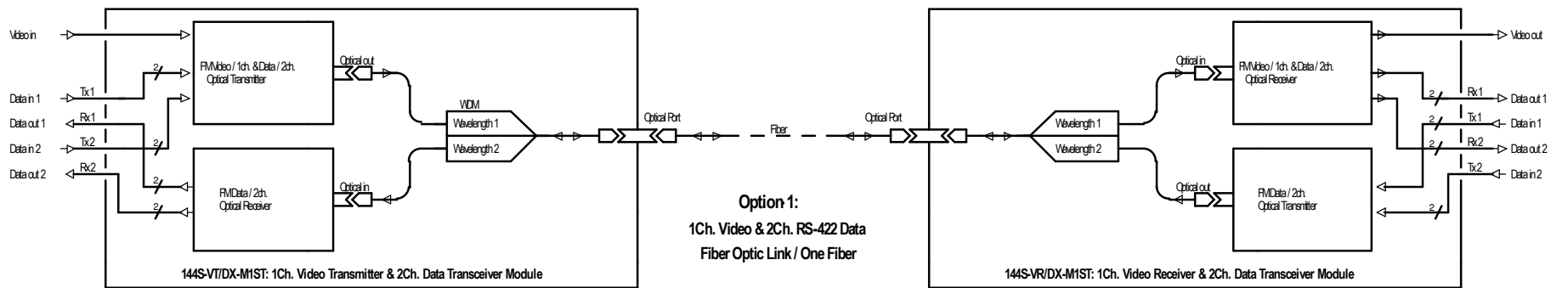
Installation Drawing



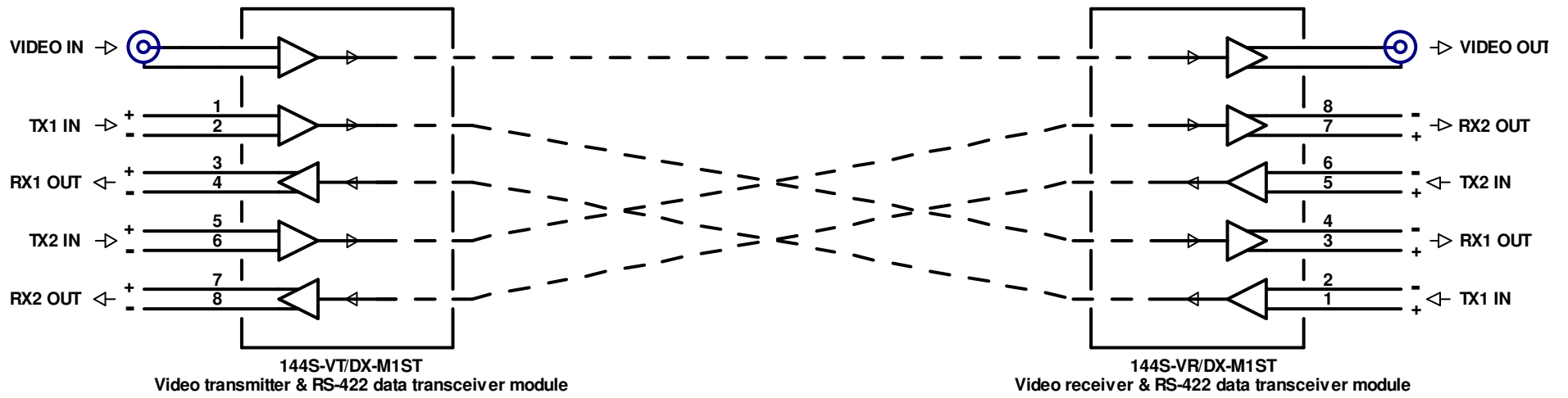
**ECT144 Video & Data Link**  
 Connection Diagram



**ECT144/244 Video & Data Link  
Connection Diagram**



**Video & RS-422 Data Fiber Optic Link Configurations  
Block Diagram**



**ECT144 Fiber Optic FM Video & RS-422 Data Optical Link  
Communication Logical Diagram**